

icon Audio

User Manual for:

Stereo 845 Integrated Amplifier

IMPORTANT!
THIS MANUAL CONTAINS
ESSENTIAL HEALTH & SAFETY
INFORMATION FOR YOU AND
YOUR AMPLIFIER. PLEASE
READ & KEEP SAFE AND
REFER TO IF NECESSARY



Shown with upgraded "David Shaw" and Full Music driver valves

designed by David Shaw

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About the Stereo 845

Thank you for purchasing our **ST 845** stereo integrated amplifier using the wonderful RCA developed 845 triode audio power valve.

YOU MUST READ AND UNDERSTAND THIS MANUAL THOROUGHLY IN ORDER TO GET THE BEST PERFORMANCE AND SAFE OPERATION.

If you are in a hurry to get your ST845 up and running go to Chapter 2 "Quick Set Up Guide". This will tell you the minimum amount of information to get the amplifier working.

The ST845 pure valve amplifier is the result of years of careful design and listening tests with a wide range of speakers. Icon Audio amplifiers are hand built using carefully selected audiophile components. The transformers are hand wound using low oxygen copper and special Japanese long grain iron. Finally each amplifier is valved, carefully commissioned and tweaked for best performance in Leicester UK.

In order to get the best out of your amplifier, please read the "SET UP" notes. These contain important information about the correct operation and safety. Should you be uncertain about anything please contact your dealer or one of our team.

Valve amplifiers do need a little more attention than their solid-state counterparts, but the sonic improvements are well worth it. In this manual we have tried to include everything that you need to know. Please let us know if you find any errors or feel that we have missed anything out.

The **ST 845** is a push-pull all triode integrated amplifier using the 845 directly heated triode power valve. These have very special characteristics which many people consider give the finest reproduction of any valves. Similar to but pre dating the Western Electric 300B but with more power and punch. These are employed in fixed-bias mode which gives maximum power, cool running and low distortion. You MUST occasionally check the bias (at least twice a year), see chapter 6. The driver and phase splitting is also done using vintage triode valves for best sound quality. A Mullard GZ34 (US 5AR4) valve rectifier is used for a controlled warm-up and extra warmth. The pre-amplifier circuit is a "passive" design using a high quality ALPS pot along with gold plated PTFE RCA input terminals and silver plated high purity PTFE audio cable. This combination of quality audiophile components, simplicity and time honoured hand built construction is guaranteed to let you bask in the warm glow of effortless music reproduction, exactly as it should be.

1. Final Inspection - Your Guarantee of Quality

To assure you of optimum performance and reliability, this amplifier has passed our rigorous final inspection and listening test by the Icon Audio team in Leicester.

***To get the best out of your
ST845 and to save time please
read this information & keep
it to hand for reference***

Date/...../.....
 Model
 Amp Serial Number
 Customer

Check amplifier finish
 Internal wiring check
 Bias meter calibrationma
 Run min 12 hour test
 Check input
 Output Valve Bias levelV
 Sound Quality
 Channel Balance
 Valve Microphony
 Valve Seating
 Hum level L.....R.....mv
 RF Test
 LED brightness
 Serial No sticker and recorded
 Mains voltage 110-120 / 230-240V

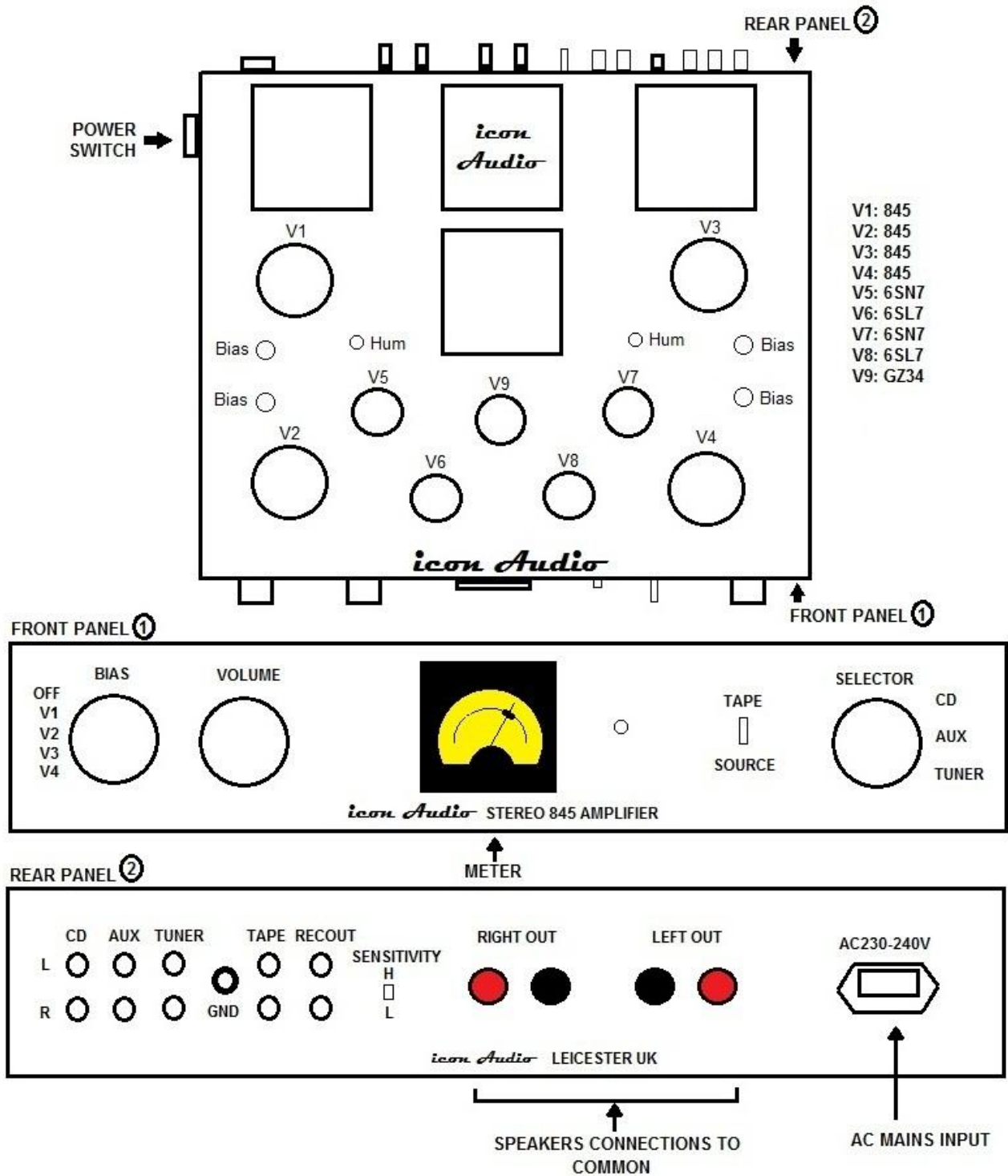
IEC Mains FuseA
 Remote Control Function
 Sales invoice
 Bottom label
 Credit card receipt
 Customer survey form
 Bias meter
 Output valves
 1st Stage valve
 2nd Stage valve
 Capacitor grade (Audio)
 Capacitor grade (Power)
 Mains lead
 Interconnects

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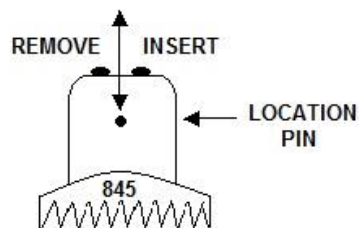
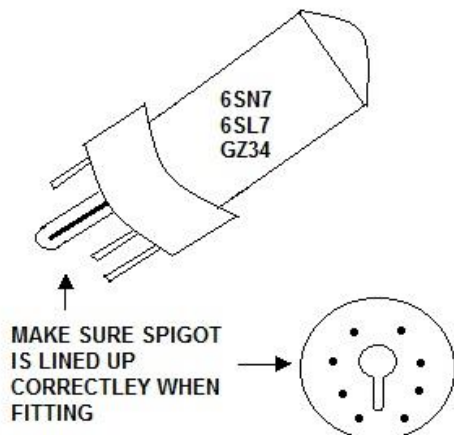
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Notes:

ST845 Layout and Features



NOTE:



IMPORTANT READ THESE NOTES THROUGH FIRST BEFORE USE!

2 QUICK SET UP GUIDE

Your safety is paramount to us. Big triode valve like the 845s operate using very high voltages. Please take care when setting up and adjusting. DO NOT OPERATE WITHOUT VALVES FITTED. If you are uncertain how to proceed at any point ask your dealer or Icon Audio. Do not leave unattended. Not suitable for operation by children.

1 Unpack the unit carefully. Make sure that it is in good condition. If not report to Icon Audio or your dealer. It is important that you keep the packaging for warranty/service return/shipping.

2 If Necessary fit the valves, or check that they are firmly in place. SEE FITTING DIAGRAM.

Fit the valves according to the numbers written on the base of the valve, and on the socket, normally 1-9. The 845s should be fitted in the four **left and right** sockets. Observe LEFT and RIGHT. Fit by locating the bayonet pin on the side of the valve and push gently but firmly down until they are fully home.

The smaller valves should also be gently but firmly pushed into place. The 6SL7 (or 6188/6N9) is fitted to the middle, and the 6SN7 (or CV181/6N8) to both the left and right positions as marked. The single rectifier valve GZ34/5AR4 belongs in the centre position.

Be careful to note the correct orientation of the small valves central "spigot" between the pins otherwise damage could occur.

To avoid damage to the valves, do not twist the glass envelopes excessively as they may become loose/detached. Hold the valves as close to the base as possible. Damage to valves is not covered by the warranty. These valves have already been fitted and tested for quality.

3 Connect to source unit, e.g. CD, Phono pre-amp, Tuner etc via RCA sockets on the rear. All inputs are exactly the same level and impedance.

4 Connect to rear speaker terminals Observe the red and black terminals to ensure correct polarity. (See speaker connections chapter 3). If 'bi-wiring' both 'common' should go to the black terminal and both 'positive' (or red) should go to the red terminals.

5 Connect to mains supply using supplied IEC mains lead to 230/240v supply (or 120v)*. **If for some reason the welded plug must be removed, please remove plug fuse and dispose of immediately.** (To avoid danger to children). The replacement plug should be wired in the following way Brown to Live terminal, Blue to Neutral terminal and Green/Yellow to Earth terminal.

6 SWITCH ON! The meter should light up and the 845 heaters should glow bright yellow. You will may hear a "humming noise" for a 1-2 seconds through your speakers, this is normal. After about 30 seconds the amplifier should be working. The small valves may

have a visible orange glow from the cathode heaters. With the pre amp volume control set to minimum there should be no sound coming from the speakers except a barely discernable hum. If there are any unpleasant sounds coming from the speakers, switch off and refer to the 'Trouble Shooting' section or contact your dealer or Icon Audio.

7 Sensitivity Switch

Located on the rear, this switch is "UP" (H) for (high sensitivity) operation. If use with a pre-amplifier is required, the switch should be "DOWN" in the low sensitivity position. Otherwise select according to preference.

8 Your unit should now be functioning. If not check wiring again. Do not operate at a high volume for the first five minutes to allow the valves to warm up properly.

Please note all these things are normal for valve amplifiers:

- A, Valves can get very hot, BEWARE!
- B, The transformer covers will get quite warm.
- C. Power transformers may hum slightly.
- D, The amplifier may smell slightly when new.
- E, Mobile phone 'breakthrough' is normal.
- F, Valves may make a 'tinkling' sound when warming up and cooling down.
- G, One channel may come on before the other at switch on.
- H, There may be a 'click' when switching off.
- I, The occasional "click" or "pop" is normal.
- J, The hum level may be higher for about 30 secs after switching on.

9 Health and Safety. The valves when operating have high surface temperatures. Keep out of reach of children and pets. Use of the supplied valve cover is recommended. Always unplug when making any changes. **Like all amplifiers there are potentially lethal high voltages inside, which when switched off can take twenty minutes to discharge!** Do not remove bottom panel unless you are a competent engineer. There are no user serviceable parts inside. **Like other household electrical appliances do not leave unattended whilst switched on.** Do not adjust the 845 bias pre sets without reference to the manual. Incorrect adjustment could cause the valves to overheat, resulting in damage to valves and amplifier.

9 Bias Adjustment:

The bias adjustment is factory set. No initial adjustment is normally needed. However you should initially check the bias of the 845 valves to make sure it is correct for your mains voltage. **Full details will be found in section 6.**

Remote Control Operation

The remote control can be found in the bottom of the box. You may need to pull the plastic tag out to connect the batteries and tighten the screws. It controls the volume by means of a motorised volume pot. Pressing "mute" will reduce the volume to zero. Make sure that you point the control directly at the sensor on the amplifier front panel. If you are having difficulty operating the handset from an oblique angle, try pointing at

something reflective, e.g. the opposite wall, or place a small reflective item at a suitable angle in front of the amplifier. A small dot of white paint or "Tippex" will enable the little "dimple" on the volume control to be more visible if required.

Note: On first "switch-on" the volume control automatically re-sets to a low volume. When the LED in the handset gets dim you should replace the batteries with 2 x "alkaline" AAA cells.

3 Connecting inputs & outputs

Many problems associated with audio equipment involves connecting leads, which are usually either '**BAD CONNECTION**' or a '**WRONG CONNECTION**'. So it's worth making sure that you have good connections and that your leads are the right way round.

Inputs

The ST845 is an "integrated" amplifier, designed to work with any normal line output. All inputs are the same level and impedance. The "Sensitivity" switch on the rear may be used to set the preferred gain, under most circumstances "Low" will be satisfactory, if not use "High". If you wish to use a turntable you will need a suitable phono pre-amp. Your dealer or Icon Audio can advise you. Our highly rated PS1 MM/MC, PS2 MM or PS3 MM/MC all valve phono stages would be an ideal partner.

Connecting loudspeakers

Loudspeakers of 4-16 Ω are suitable. Optimum results for 4-8 Ω . It is important to use good quality (but not necessarily expensive) loudspeaker cable. This should be relatively thick and multi-stranded. i.e. QED 'Original' 79 strand or better. Take care to connect the correct polarity. The use of 'Banana plugs' or 'spade' connections will ensure a good connection whilst minimising the risk of 'shorts'.

In our experience Icon valve amplifiers are more tolerant of cables; therefore the benefits of some very 'exotic' cables may be less apparent. But this is also personal taste. The losses in speaker cables is normally less than in interconnects.

You can either 'hard wire' your cable to the amplifier by baring enough cable to fit in the

connector and twist together to avoid any spare strands touching anywhere else (soldering the stands together helps). **Be warned this amplifier does not have an output protection device, which would degrade the sound. So a prolonged short due to strands of wire touching could cause damage.** Alternatively use good quality 'banana' plugs or spade connections, once fitted they are trouble free.

Speaker polarity. It is essential that you observe the polarity of the speaker terminals; they must be the same for the left/right connections at each amplifier end and at the loudspeaker end. Otherwise the sound will be 'out of phase' with the sound stage 'inside out' with reduced bass. You can normally confirm this by playing a mono recording or a test disc.

4 or 8 Ohms?

Many modern loudspeakers have an impedance which can vary between 2 to over 20 ohms, the ST845 is designed to work with these. However speakers with a high nominal impedance will not be able to realise the full power output

The ST 845 is designed to work with full range, low to medium efficiency speakers having impedance between 4 ohms to 8 ohms. Speakers having efficiency of lower than 80db will have greater difficulty in providing a high sound level. But this will also depend upon individual speakers, room size, type of music and positioning etc.

4 Getting the best performance from your amplifier

- **UNDER NO CIRCUMSTANCES OPERATE WITHOUT VALVES FITTED!**
- **DO NOT REMOVE THE BOTTOM COVER**
- **Do not leave the amplifier switched on all the time. (This is not necessary, and wastes valve life and power)**
- **Do not switch off and on without a short rest of 60 seconds (to avoid a power surge)**
- **Do not adjust the output valve grid bias without reading the manual**
- **Do not operate the amplifier without loudspeakers connected (temporarily at low volume is OK)**
- **Do not use valves other than listed as there could be danger of shock or damage**
- **Do check the bias regularly or if you have cause to suspect a problem**
- **Do Make sure the speakers are in phase**

What is safe maximum volume?

The ST845 will run happily all day long at any undistorted power; the valves hardly stressed any more at high volume than at zero volume. Running into high distortion will however stress the whole

amplifier. Generally speaking if the sound is not distorted then the amplifier is not stressed. But beware of heavy musical transients at high volume which could also damage your speakers and blow fuses.

Leaving the amp switched on

We are often asked if the amplifier should be left running 24/7 without switching off. Whilst the amplifier will sound at its best when it is properly warmed up, there is no advantage leaving it switched on when it is not in use. It is using electricity and as valves have a finite life, their life could be used up in as little as 6 to 9 months.

'Burning in'

Although the amplifier should sound good within about 10 mins it can take up to an hour to sound at its best and will take several months of regular use before it is fully 'run in'.

Upgrading Valves!

Quality valves should sound better and have a better service life. The valves supplied with selected models

are the result of careful comparison with other makes. But beware of paying a premium for "New Old Stock" valves where you may be paying for rarity value and not performance. Icon Audio normally keep a range of upgrade valves in stock. Ideally valves should be tested an ST845 before purchase. Note that premium valves may not last any longer and are not necessarily any more reliable.

Cabinet Care

To remove dust we suggest gentle brushing of the chassis with soft paintbrush. Other marks can usually be removed with a damp cloth. The Perspex valve cover may need a gentle wipe with soapy water and drying with a duster. Never use anything wet on the amplifier, and always clean with the power disconnected.

5 Trouble Shooting

1. Amplifier Dead (nothing working)?

Check the 5 (or 10amp for 115 V) amp mains fuse in the IEC socket at the back of the amplifier. To gain access, remove the mains lead. The fuse is in a small plastic drawer, which forms part of the socket assembly. To open insert a flat blade screwdriver or similar and prise open. **The fuse in use is the innermost** the outer is a spare. Should the replacement fuse also blow there obviously a fault. You should disconnect from the mains and seek qualified help or contact Icon Audio. Replacements should be 5 (or 10 amp) Amp 'anti-surge' type. Available FREE from Icon Audio on Request.

(UK only) The fuse in the wall plug should be a 5 amp fuse, although unlikely to fail, this should be checked if the amplifier fuse is OK.

2. Lights up but one or both channels not working

Check for no bias voltage for one channel according to the built in meter. 845s that are lit but without their HT high voltage will not get very hot compared to normal.

There are also two HT fuse's inside the amplifier. One for each channel. This would not normally blow unless there is a valve fault or an overload condition. These carry a potentially lethal very high voltage which takes time to discharge after power off. This should be checked by your dealer, or only if you are a competent engineer. Disconnect amplifier from the mains power and wait 20 minutes before removing bottom plate. If the HT fuse has blown, there are replacements inside. Replace bottom cover afterwards and check bias immediately after switching on. If the replacement fuse blows there is a fault. Seek qualified help.

It is unlikely that both channel fuses would blow unless the output has been overloaded.

2a. No sound

Have you selected the right input? Is the "Tape Monitor" switch up? Are all the connections OK? Is everything switched on? Are the speakers connected?

Is the bias voltage present on all 845s? A working amplifier should have a very low hum in both speakers.

Distorted sound.

Could be your source, the speakers or the amplifier, check all wiring, and try swapping things around to eliminate or prove which component is the problem.

Both channels or just left or right? If both could be your source unit. Try another source. If one channel is distorted check the bias. No bias reading means either a fuse blown or a faulty valve. Distorted sound at higher

volumes may be because one of the output 845 valves is not working. This could be due to a faulty 845.

3. Hum Problems

If you experience hum, try disconnecting the input, if it clears it is external to the ST845 and further advice should be sought from your dealer or see below. By elimination find out which unit is causing this. Interconnects should be well screened. Try another interconnect.

If hum persists with no input this is probably the hum adjustment.

4. How to adjust the "hum" adjustment:

Ideally use a AC millivolt meter connected to the speaker terminals (together with loudspeaker) with a shorted input, or no input connected. Adjust hum adjustment for minimum hum (about 1mv or less AC).

OR Adjust by ear:

This is easier with one person listening another adjusting, rotate adjustment backwards and forwards for minimum hum (like tuning in a radio)

This will normally be necessary after changing 845 valves. Or after the amplifier has been in use for some time. Check and adjust (if necessary) bias first.

5. External hum causes;

Identify which input is causing hum. Connect one input at a time. A common cause is a 'hum loop' caused by having too many earths, and may be identified by unplugging each input source from the mains. One remedy for this is to use an interconnect which only has the screen connected at one end. Other causes of low-level hum can be from adjacent equipment, so experiment with moving equipment around to see if this makes the hum better or worse.

Never disconnect the mains earth. It is there for your protection! (may not be used in some countries).

6. Strange noises coming from speakers

Turn volume to minimum on unused input, if the noise disappears, the fault is with the source or the connection. If noise persists, the problem is with amplifier.

If a whole output valve glows red (other than the heater), often accompanied by a hum through the speakers, switch off immediately, and refer to Icon Audio or a service engineer, as this could be valve failure. This may blow the internal HT fuse.

7. Service: Should you suspect a problem, you could return the unit to your dealer or Icon Audio for a periodic service or return the valves for testing free of charge. You should carefully remove the valves (the 845s should be held by the base when removing, to prevent damage) numbering them with a marker from left to right as you do so in order that that may be replaced in the same position. They should be well packed in cardboard & foam or similar, and returned to Icon Audio for testing. (Valves are very rugged if packed properly).

Mains Supply

This amplifier is normally hard wired to work on 230/240v ac (115-120v ac USA). The transformer may be re-configured for 110/120v ac by a qualified engineer. See engineers notes or contact Icon Audio for more information.

This manual is provided for guidance only, and is not intended as a comprehensive service manual. In case of problems you should refer to your dealer or directly to Icon Audio.

6 Bias Adjustment 845s

In most cases a quick check of the bias of each 845 is all that is necessary. Only occasionally will any adjustment be necessary.

Please read these notes all the way through first.

If you are unsure about any aspect contact your retailer, Icon Audio or a competent service engineer.

When checking the bias ensure that any "Active" pre-amp or source is "off" with zero volume to prevent false readings. Passive pre-amps should have "zero" volume. On a test bench "short circuit" the input.

The ST 845s use the "fixed bias" mode of valve operation. This has the advantage of higher power, and cooler running. However regular checking (say once a month), is advisable to check the bias reading using the built in meter to ensure best performance from the amplifier.

It is recommended that the bias is checked regularly. But even if the reading is slightly over or under no action may be necessary if all readings are the same, as this may be your local 230/115v power variations. If you find variations at different times of the day it is better to play safe and be "under" rather than "over". The performance of the amplifier will be unaffected. Ideally they should read the same.

1, Tools you will need:

For checking none. For adjusting a small flat blade screwdriver. (preferably a long one).

BEWARE The 845 valves get very hot!

2, Adjustment Method This is done at zero volume with speakers connected. If possible first run the amplifier for about 5 mins.

First select V1 with the "Bias" selector, the pointer should be in or close to the black section. If not adjust until it is correct.

The adjustment is very sensitive so adjust very carefully.

Then select V2, and adjust if necessary.

Do the same for V3 and V4.

Check V1,V2,V3,V4 again and make small adjustments if necessary.

Check regularly at switch on. Regular adjustment should not be necessary.

3, Notes on Bias adjustment:

If the reading appears a little unstable this is normally due to mains fluctuations. Make sure you have the BIAS switch set to the correct 845 valve.

4, Bias cannot be set (but the valve is lit):

No reading: May be a blown internal fuse or faulty 845.

Reading too low: Valve may be worn out.

Reading too high: Valve may have developed a fault.

It is often possible to prove if the problem is a valve or the amplifier by swapping around valves by a process of elimination.

5. Valve Testing:

If you suspect any of the valves are not working correctly Icon Audio will test the valves at no charge. Return them to us well packed in a rigid box with a note detailing the problem, which valves you suspect and your contact details. We will then contact you with the test results.

Possible valve faults

Not all valve faults are visible but 845s and driver valves should not be used if:

1. The "silver" getter material has turned white or is disappearing, normally due to an air leak.
1. The valve rattles excessively (a slight rattle is normal).
2. Cracks in the glass.
3. The base has become loose.
4. Any valve pins are damaged or loose.
5. Heaters not lighting up (this is harder to see with the 6SL7/6SN7). If one valve stays "cold" the heater has probably failed.

NO BIAS ADJUSTMENT NEEDED FOR THE SMALL VALVES. 6SL7, 6SN7/CV181, GZ34/5AR4

NOTE!

If there is no reading at all the internal fuse individual to each 845 should be checked by a qualified engineer. Spares should be attached to the inside of the bottom plate.

After **significant** bias adjustment or valve change the hum adjustment MAY be necessary if you notice increased background hum. See section 5.4.

7 Valve Replacement

Important! Do not attempt to change the 845 output valves without reading these notes. Failure to do so could be both dangerous to you and damaging to the amplifier. Keep these notes handy.

6SN7/6SL7 Take care that you orient the valve correctly before inserting. Line up the centre "Spigot" first. They are easy to break, do not bend excessively to the side.

Health & safety; DANGER High voltages are present inside the amplifier and on exposed valve sockets when valves are removed. You must remove the power cable from the rear before making any changes. It is not necessary to remove the bottom cover. Beware valves get hot in operation!

How do I know when to replace valves?

Over several thousand hours the emission will drop to the point where the amplifier can no longer compensate then the power and performance will deteriorate. Valves may also fail in other ways such as becoming excessively microphonic or "noisy". The heater may fail which will stop the valve working. There several other ways in which a valve may fail.

Valve life will depend upon such things as hours of use and number of on/off cycles. It is not good practice to remove the valves unnecessarily as this can strain the pins and cause tiny air leaks.

In our experience the 845 tube is very reliable and can last for several years of regular use. Similarly with the 6SL7/6SN7. If the sound deteriorates or you suffer background noise (other than hum), one or more of the valves require replacement. All the valves will need replacing after 3000 to 5000 hours use.

Generally speaking valve failure will fall into one of these categories:

1, The valve continues to work but the emission gets low. In the case of 845 output valves this will result in not being able to set the bias properly.

2, The valve gets noisy/microphonic. Usually happens to the small valves, can be confirmed by tapping gently with a plastic pen.

3, Heater fails. No glow in centre of valve. Valve is cold. A valve that is lit up is not a guarantee that it is working properly; conversely a valve that is not lit up will not be working at all. 6SN7/6SL7 double triodes have two heaters. It is possible that only one half can fail.

4, Dramatic Failure. Occasionally the demise of a power valve may be obvious with internal sparks and noise through the speakers. In that case, switch off and do not use until a replacement is available. Before recommencing use see chapter 6 "Bias Adjustment". If there was any associated burning smell etc, we would recommend a qualified person examines the inside of the amplifier first. This could also blow an internal fuse.

If the amplifier sounds OK the valves are probably fine. If the emission drops you will have difficulty setting the bias for the output valves.

5, Changing valves:

Before changing the 845 valves ensure that it safe to do so by switching off and removing the mains plug at least 20 minutes before hand. This will enable dangerous voltages to dissipate, and the valves to cool down.

If possible check the bias setting before you attempt to change the valve(s), in order to familiarise yourself with the procedure.

If changing both the 845s be ready to adjust the bias in order not to overload the power supply. Don't worry how low the reading goes this will not cause damage. Do final adjustment when the amplifier is fully warmed up.

If all is well there should be no more than a barely detectable hum from the speakers, and the amplifier should sound OK when tested. Note that only 845 valves are compatible with the amplifier, 805, 211 and similar looking tubes cannot be biased and may damage the amplifier, and could be dangerous.

6, If you cannot set the pointer in the black section, then the valve is probably faulty or is unsuitable. (If both valves read zero the HT fuse may have blown). If the valves are brand new, you will need to check again after approximately 10 & 100 hours, after that only occasionally or if you suspect a problem.

7, To avoid damage to the amplifier and electric shock hazard you must use only valves marked 845, 6SL7, 6SN7 or equivalent. Use only valves which you know to be new or good condition and test the amplifier thoroughly before resuming normal use.

8, Replacing the small valves:

6SL7 and 6SN7. Neither of these requires any set up procedure. It's just 'plug and play'. (These valves are similar with the same pin connection; accidentally interchanging these two valves would not cause damage, but will reduce the amplifier performance).

6SN7 should only be replaced with modern types.

Icon Audio is happy to check the valves/amp or re-bias your amp free of charge.

GZ34/5AR4 Generally these valves are very reliable and only need replacing together with the 845s unless a problem is suspected. If the GZ34 fails the 6SL7 and 6SN7 cannot function.

8 Specification & Features

(Typical conditions @ 240v 50Hz)

- 845 directly heated triode output valves
- 6SL7 double triodes for first stage
- 6SN7 double triodes for 2nd stage
- Hand wired point to point components
- No printed circuit board
- PTFE valve bases for low noise/leakage
- 42w RMS at clipping (18.5v @ 8 Ohms)
- 48w RMS at clipping (17.0v @ 6 Ohms)
- 39w RMS at clipping (12.5v @ 4 Ohms)
- Signal to noise level -85db
- Freq response 15Hz-22kHz +0 - 0.1db @36w
- Freq response -2db=12Hz-43kHz @36w
- THD 0.15% (0.25% high gain) 1w 1kHz
- THD 0.36% (0.5% high gain) 8w 1kHz
- THD 0.5% (0.7% high gain) 36w 1kHz
- Sensitivity 380mv x50(H) 1v x 18.5(L)
- Feedback 6.3db (high gain) 14db (low gain)
- Custom hand wound transformers using grain oriented iron
- Supplied with attractive safety guard
- Audiophile oversized metal film resistors
- Audiophile High quality polypropylene or Jensen audio capacitors (optional upgrade)
- Internal wiring using silver audio cable
- Valves carefully matched for best performance
- Gold plated Input & speaker terminals
- 5 amp (10 amp 115V)T mains IEC fuse (with spare)
- 220/240volts, 320watts (0) 450w full power
- 250 ma T 845 anode fuses (with spares)
- Size W: 44cm. D: 40.5cm. H: 26cm. 35kg net
- IEC mains lead, (5 or 13amp fused UK only)
- CE certified. ROHS & WEEE compliant

Specification subject to change without notice.

9 Packing Instructions

It is essential that the original box and packing be kept in good condition, as this provides vital protection during transit. Please note we are unable to supply replacements. Please do not write on box, but use removable labels.

- Due to the size, weight and value of this unit we strongly advise use of a pallet for shipping to avoid damage.
- Re-use the supplied plastic bag to keep the amp clean and free from damp.
- The mains lead fits in a foam cut-out underneath the amplifier.
- **Send the valve covers and valves in the**

separate supplied box. See above for valve removal.

- Valves should be removed, numbered and packed in "Bubblewrap" or similar for protection inside the valve cover.
- If the amplifier is stored in the box, keep upright.
- Do not store in damp conditions to avoid corrosion damage.
- If the amplifiers are shipped insurance is desirable due to the high unit value.

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Engineers Notes

These notes are only intended for use by an engineer qualified to work with high voltage triodes like the 845/805. Owners should refer any problems to a dealer, service agent or Icon Audio depending upon area purchased in.

The amplifier may be inverted by supporting the transformers on non abrasive surface (e.g. dense foam, books etc) which allows space between the 845s and the work surface.

Safety

Before removing base disconnect the power cord. Always allow 10 minutes for the HT to discharge, or measure before proceeding. Use a bleed resistor of around 5-10K Ω will speed this up, and check that the HT voltage has discharged.

Amplifier dead.

Check the 20mm mains fuse in the IEC socket at rear of the amplifier, if dead there is a spare included. Or the fuse in the plug (if applicable). If not either check in-line power switch fuse adjacent to IEC socket.

Amplifier lit but not working.

There is a 250ma HT fuse located on the chassis, with spares attached to the base. If the fuse blows again a VARIAC will be useful to operate the amplifier on reduced voltage in order to trace the fault or overload.

Make sure the bias for the 845s is correct. If the AC fuse is blowing with the HT fuse disconnected suspect the bridge rectifier or power supply.

Also check that the 6SL7/6SN7 6.3v supply is working.

230v to 115v Conversion.

Take the precautions as above. It is necessary to change the primary power windings from series to parallel. Remove either AC lead from the bridge rectifier and join it to the other terminal. The "centre" tap are the two leads that will be found joined together. Replace with these two and solder to the first terminal. A larger value AC fuse will be needed in the IEC socket.

115v to 230v Conversion.

This is changing the two primary windings to series. Remove either pair of AC leads from an AC input to the bridge rectifier. Join together and insulate. The other pair of AC leads should be separated and soldered to each AC input of the bridge rectifier. A lower value AC fuse will be needed in the IEC socket.

The incorporation of a built in bias meter for easier checking of the bias current of the 845 output valves.